

## Prideaux J. Selby, the Doubledays and the Modern Method of "Sugaring"

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Allen (1965) and Wilkinson (1966) have intensively examined the early history of "sugaring" for moths and other insects, but more remains to be said about the origin of our modern method of painting trees and posts with a saccharine mixture. As part of an overall survey of the subject, my own paper suggested the priority of Abel Inghen (1827) in publishing an account of a "sugaring" method in England utilising artificial bait; he found that "Sheets of paper smeared with honey water, beer, and sugar, or sugar sprinkled over them would answer the purpose" of attracting insects. Most of Inghen's methods reflect the experience of the London entomologists with whom he associated, and it is not known how many years prior to 1827 the baited paper technique might have been used.

Allen (1965) called attention to the seminal suggestions of Prideaux J. Selby of Twizell in developing an improved method of "sugaring". Selby, perhaps best known for his contributions to ornithology, knew of Edward Doubleday's suggestion that an emptied sugar hogshead would attract nocturnal Lepidoptera (Doubleday, 1833), but he did not have access to these exhausted casks, and thus experimented with an empty beehive or "skep", recommending that the hive "should be well anointed on the exterior with honey". Selby's baited beehive was reported by Duncan (1836) as a method for collecting a variety of moths. Of greater interest to those who would trace the history of artificial bait is a letter from Selby to F. O. Morris suggesting the idea of painting trees with honey. Yet Selby seemed to reject such a method as "it would require a much greater consumption . . . Wasps, Bees and other insects would devour every particle during the day". Morris (1837) published the idea, quoting from Selby and crediting him, but Selby himself chose to retain his daubed beehive, and continued to report a number of species of Heterocera taken on it (e.g. Selby, 1839).

No definite link has previously been established between Selby's suggestion and the first successful efforts of Henry Doubleday in painting trees with a sugar mixture. In the introduction to H. Noel Humphreys and J. O. Westwood, *British Moths and their Transformations*, dated 1841 (Humphreys and Westwood, 1843-45), it was reported that "Mr. Doubleday has recently tried the experiment of brushing a mixture of sugar and water upon the bark of trees where moths are likely to abound, and found the plan perfectly successful". J. W. Douglas (1842) and Doubleday himself (1842) reported the success of the method, but no credit was given to Selby for the idea. In fact, despite the general accolade given to Henry Doubleday for the method of "sugaring" trees, a curious thing happened after the Epping entomologist's death. In 1881 James English, who had been hired as a collecting assistant by Doubleday in 1836,

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read a paper before the Epping Field Club in which *he* claimed to have devised the method of baiting trees while his employer was away in Paris. Henry's brother Edward was then at Epping, and was said to have complimented English on his invention (English, 1882).

The Paris journey to which English referred was, however, made after the publications of Douglas and Doubleday in 1842. Allen (1965) accepted English's claim, inferring that the old man had forgotten the date, but Doubleday's priority was reasserted by P. B. M. Allan (1965) and Wilkinson (1966) because English's assertions differed with the course of events, and it was certainly pertinent that he waited to press his claim until well after the death of Henry Doubleday in 1875.

The true facts of the origin of the Doubleday practice of baiting trees with sugar are revealed in a letter in the papers of the eminent American entomologist Thaddeus William Harris (1795-1856), now in the Science Museum, Boston, Massachusetts. On 19th October 1841, Edward Doubleday wrote in one of an extended series of letters to his friend Harris about the results of his and Henry's efforts in the collecting season: "Our success this year in capt[urin]g Lep[idopter]a has been owing very much to adopting a plan first introduced in a notice by Mr. Selby of Twizel House, Bedford,—brushing over the trunks of trees near our house with sugar. Every tolerably fine evening a row of lime trees in one of our fields is sugared well for three or four feet from the ground, and in addition boards similarly sugared are put out in a little plantation at the bottom of another field. Twice or thrice before 9 or 10 o'clock Henry visits these with a lantern and some nights takes 100 moths. He also sends a boy out occasionally into the woods to employ the same plan there. In the woods sometimes there are swarms of particular species. One boy counted 70 specimens of *Glæa Vaccinii* on one tree. My brother finds that coarse *strong smelling* sugar is to be preferred, and he generally puts a moderate quantity into a pan of water & brushes it on with a large paint brush just after sunset. I think you would succeed in this way getting a great many moths." (An inaccurate transcription of Doubleday's letter was published in a selection of Harris' correspondence published by Samuel Scudder with a memoir in 1869; the present Harris papers were previously in the custody of the Boston Society of Natural History.)

Not only does this very pertinent letter explain in detail the Doubleday practice of baiting trees with sugar in 1841, but it reveals the true source of the idea. The credit for proposing the method must go to Prideaux J. Selby. However, Henry Doubleday's lustre is little diminished, for the results of his practical application of Selby's idea made the "sugaring" of trees a standard entomological procedure. As for English, the credibility of his assertion is even further lessened.

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